

Remarks/Arguments

Applicant thanks Examiner Baker for her careful consideration of the issues in this case, and for granting a productive in-person interview on June 4, 2003. As discussed at that interview, Applicant has crafted claims specifying either that a combinatorial library is attached to the support, where structural characteristics of that combinatorial library are recited, or that the support is wrapped about a geometric template. Applicant respectfully submits that this claim language obviates the outstanding rejections; each rejection is discussed individually below.

New Matter

The Final Office Action contained a rejection of claims 1-7 and 37-46 as containing subject matter that was new matter not described in the specification as filed. This rejection does not apply to the present claims, all of which are amply supported by the specification.

For example, claims 47, 55, and 56 recite an array comprising a library of chemical compounds, which library is “combinatorial” in that “its members can be generated via chemical reactions in which a first set of moieties is attached to a second set of intermediates so that a larger number of products is produced than different chemical reactions are performed”. Support for this definition of a combinatorial library can be found in the application as filed, for example, on page 1, lines 21-23. Discussion of inventive arrays comprising such libraries, as well as their uses and advantages, can be found at many points in the specification including, for example, page 11, lines 15-21;

Claims 48 and 52 recite an array comprising a geometric substrate about which the support is wrapped. Description of an array wrapped about a geometric substrate, and the uses and advantages of such an array, can be found at many points in the specification including, for example, page 9, line 29-11, line 21; page 18, line 20-page 19, line 19; page 22, line 25-page 25, line 6.

Claim 50 recites an array comprising a library of chemical compounds whose members are related to one another by synthetic history, such that each member of a first subset of compounds within the library shares a first common feature resulting from a first common chemical reaction, and each member of the first subset of compounds is separated from each next

closest member by a first distance. Such an array is described at many points within the specification including, for example, page 4, lines 14-18; page 7, line 26-page 8, line 17; page 9, line 25-page 11, line 3; page 18, line 1-page 25, line 6.

Indefiniteness

The Final Office Action contained a rejection of claim 1 for indefiniteness of certain language; this language is not present in the pending claims so that the rejection is moot.

Art rejections

The Final Office Action contained rejections of all pending claims as anticipated by or obvious of Lebl or Browne, or a combination of Lebl and Browne. Neither of these references, whether taken individually or together, can anticipate or render obvious the present claims.

As discussed previously, Lebl describes synthesis of a polymer on a band by pulling the thread through a series of reaction baths. The intent and purpose of Lebl is to synthesize *the same polymer* at several points along the band. The Examiner has nonetheless taken the position that, if Lebl's synthesis system were stopped in the middle, the band would contain a collection of *different* attached compounds. The Examiner is correct that early termination of Lebl's synthesis would produce a band containing *non-identical* compounds. Some compounds would be complete polymers, and others would be incomplete versions of the same polymer. However, the *largest number* of different compounds that could even theoretically be present under such circumstances is identical to the number of reactions performed. Thus, Lebl cannot teach or suggest the array of claim 47, in which a combinatorial library is attached to a support. As noted in the interview, described in the specification, and recited in claim 47, a "combinatorial" library is one whose "members can be generated via chemical reactions in which a first set of moieties is attached to a second set of intermediates so that a larger number of products is produced than different chemical reactions are performed".

Lebl contains no mention of a geometric substrate, its desirability, or use, and therefore cannot anticipate or render obvious claim 48.

Finally, Lebl contains no teaching or suggestion of periodicity of reaction conditions, which produces an array containing a library of chemical compounds whose members are related to one another by synthetic history, such that each member of a first subset of compounds within the library shares a first common feature resulting from a first common chemical reaction, and each member of the first subset of compounds is separated from each next closest member by a first distance, as recited in claim 50.

Browne describes a sol-gel clad fiber-optic waveguide in which various dyes have been introduced as dopants. The Examiner asserts that these dyes are different chemical compounds that are arrayed on the waveguide in linear organization. Applicant respectfully submits that the dopants described by Browne are not *covalently* attached to the waveguide. Moreover, the dye molecules are not a combinatorial library (claim 47) or a library that shares periodicity of a reaction product (claim 50). Browne contains no mention of a geometric substrate, its desirability, or use, and therefore cannot anticipate or render obvious claim 48.

As is clear from the above, there is no combination of Browne at Lebl that could render obvious the present claims.

Furthermore, Applicant respectfully points out that the scientific community has embraced the inventive arrays as truly novel and distinct. Attached to this Response is a PTO-1449 form listing three references that address the inventive work. The authors note, for example, “In retrospect, the lack of prior work on libraries formatted in one dimension is striking” (Czarnik, *Chem. Eng. News*, Sept 13, 1999, pg. 9), and describe the inventive work as “a totally novel technique and really quite clever” (Terrett, *New Scientist*, Sept 18, 1999, pg. 14).

In view of the forgoing arguments, Applicant respectfully submits that the present case is now in condition for allowance. A Notice to that effect is requested.

Please charge any fees that may be required for the processing of this Response, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,



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